Title: Entanglement and mixture in algebraic quantum field theory

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Abstract:

The aim of this talk is to review and discuss some aspects of quantum entanglement in the quantum field theoretic (QFT) domain. The discussion takes place in the algebraic approach to QFT, the motivation for which is briefly discussed. We consider in what sense this approach is sometimes called 'local quantum theory'. We discuss a possible 'realist' understanding of quantum entanglement within this framework, addressing some conceptual and methodological worries raised by Einstein (among others).